Student Project Position  
SC24 Student Cluster Competition

<table>
<thead>
<tr>
<th><strong>Job Type Preferred</strong></th>
<th>Undergraduate Position</th>
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<tbody>
<tr>
<td><strong>Job Location</strong></td>
<td>On site with some hybrid work</td>
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<tr>
<td><strong>Job Level</strong></td>
<td>Undergraduate Student Experience</td>
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<tr>
<td><strong>Summer Start Date</strong></td>
<td>May 28, 2024</td>
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*(There will be 20 hours in March-April 2024 to complete the competition application.)*

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<td><strong>Job Description</strong></td>
<td>Have you built your own gaming rig or overclocked your desktop? Have you wondered what is all the hype with AI/ML and how all of that is done in real life? Have you heard about Supercomputing and wondered where the Super comes from? Then this challenge is for you!</td>
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Students will spend the summer working together, with sponsorship from hardware and software vendor partners and university advisors from Carnegie Mellon University and the University of Pittsburgh, to design and build small clusters, learn scientific applications, and apply optimization techniques for their chosen architectures with the intent to compete in a non-stop, 48-hour challenge at SC24  
https://sc24.supercomputing.org/.

*Competition overview: Teams are composed of six students, a formal advisor, and vendor partners. The advisor provides guidance and recommendations, the vendor provides the resources (hardware and software), and the students provide the skill and enthusiasm. Students work with additional advisors (across PSC, Carnegie Mellon University, and the University of Pittsburgh) to craft a proposal that describes the team, the suggested hardware, and their approach to the competition. The SCC committee reviews each proposal, ranks, and selects the team roster for the competition. Team clusters should be able to run the competition’s applications and exercises without exceeding a fixed power limit.*

SC24 Student Cluster more information:  
https://sc24.supercomputing.org/students/student-cluster-competition/
Pittsburgh Supercomputing Center is a joint computational research center with Carnegie Mellon University and the University of Pittsburgh. Established in 1986, PSC is supported by several federal agencies, the Commonwealth of Pennsylvania and private industry.

PSC provides university, government and industrial researchers with access to several of the most powerful systems for high-performance computing, communications and data storage available to scientists and engineers nationwide for unclassified research. PSC advances the state of the art in high-performance computing, communications and data analytics and offers a flexible environment for solving the largest and most challenging problems in computational science.

Responsibilities include:
- Learn and understand the SC24 Student Cluster Competition Challenge
- Collaborate with peers to successfully craft a proposal as well as design and build small clusters, learn scientific applications, and apply optimization techniques for their chosen architectures
- Attend SC24 in Atlanta, GA in November 18 - 20, 2024 (fully funded)

This student experience offers the opportunity to:
- Gain valuable experience and knowledge in research computing.
- Network with leaders in academia and industry to form valuable relationships.
- Attend a prominent conference.

**Job Requirements**

Successful candidates will have the following:
- Candidates must be pursuing an undergraduate (bachelor’s) degree.
  
  *All majors are welcome to apply!*
- Excellent communication skills and ability to work in a team environment.
- Excellent problem-solving skills and creativity.
- Students need to supply their own computer/laptop.

**Keywords**

HPC, Hardware, Software, Supercomputing, Scientific Computing, Performance Tuning

**PSC Mentors**

Barr von Oehsen and Valerie Rossi

**Starting**

May 28, 2024

**Duration**

11 weeks in the summer (summer session ending on August 9, 2024), with potential for extension in fall 2024

**Positions Available**

6

**Salary Information**

Will be paid as a stipend in four installments

**Work Period**

Up to 35 hours per week during the summer, and up to 20 hours per week during the academic year.

**Student Employment**

Undergraduate students
Minimum QPA 3.0/4.0

Application Process: Email the following to Valerie Rossi vrossi@psc.edu:

1. Letter of Interest
2. Resume/CV
3. Two references (names not letters)

DUE DATE: Monday, February 26, 2024 at 5:00pm EST